



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,630	04/21/2006	Noriyoshi Sato	NGB-40271	5770

52054 7590 08/17/2009  
PEARNE & GORDON LLP  
1801 EAST 9TH STREET  
SUITE 1200  
CLEVELAND, OH 44114-3108

EXAMINER
----------

SHEDRICK, CHARLES TERRELL

ART UNIT	PAPER NUMBER
----------	--------------

2617

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

08/17/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patdocket@pearne.com  
dchervenak@pearne.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/576,630	<b>Applicant(s)</b> SATO ET AL.	
	<b>Examiner</b> CHARLES SHEDRICK	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 14-18 and 20-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Response to Arguments***

1. Applicant's arguments filed 2/3/09 have been fully considered but they are not persuasive.
2. Applicant argues that Claims 14, 15, 20 and 25 have been amended to include limitations not disclosed by Kauhaniemi (and/or Wilson). Specifically, Kauhaniemi (and/or Wilson) does not an edge of the bendable member is inclined to a surface of one of the two housing portions while the two housings are in the unfolded state.
3. However, the Examiner respectfully disagrees based on at least the following interpretations of Wilson. Consider Wilson teaches that each strap 30 is generally rectangular in shape and has a central substantially oval embossed or depressed region 33 to provide additional strength and rigidity thereto. Consider an initial interpretation that the edge of the bendable member that is inclined to a surface is at least the edge of the embossed region. Secondly Wilson indicates in at least paragraph 0026 that it will be appreciated that the straps 30 also control the angle to which the cover 4 may open. Generally, an angle between the cover and the housing of 130 degrees is preferred (i.e., 180 Flat -130 = 50 Deg. Incline).

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2617

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims **14-18 and 20-32** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kauhaniemi et al. US Patent pub. No.: 2004/0266496 A1, hereinafter, "Kauhaniemi in view of Wilson US Patent Pub. No.: 2003/0114184 A1.

Consider **claim 14**, Kauhaniemi teaches a connecting device comprising: a bendable member which has enough restoring force and rigidity to restore a bent state to an unbent state and foldably connects two housing portions separated from each other by a predetermined distance (**paragraphs 0043-0044 and figure 14**); wherein the bendable member is a thin plate having an arc shape in sectional view perpendicular to a connecting direction thereof (**e.g., see remarks in response to arguments**)(**paragraphs 0043-0044 and figure 14**).

Art Unit: 2617

However, Kauhaniemi does not specifically teach wherein the bendable member is a thin plate having an arc shape in sectional view perpendicular to a direction in which the bendable member bridges the two housing portions while the two housing are in an unfolded state and an edge of the bendable member is inclined to a surface of one of the two housing portions while the two housings are in the unfolded state.

In analogous art, Wilson teaches wherein the bendable member is a thin plate having an arc shape in sectional view perpendicular to a direction in which the bendable member bridges the two housing portions while the two housing are in an unfolded state (**e.g., see paragraphs 0009, 0024 and figure 3, 4a-4d**) and an edge of the bendable member is inclined to a surface of one of the two housing portions while the two housings are in the unfolded state (**e.g., see response to 6/5/09 arguments**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kauhaniemi to include wherein the bendable member is a thin plate having an arc shape in sectional view perpendicular to a direction in which the bendable member bridges the two housing portions while the two housing are in an unfolded state and an edge of the bendable member is inclined to a surface of one of the two housing portions while the two housings are in the unfolded state to increase rigidity as taught by Wilson.

Consider **claim 15**, Kauhaniemi teaches a connecting device comprising: a joint members having flexibility on which two housing portions are fixed at a predetermined gap (**see housing portions in figure 5 and 6 with respect to element 13**); and a bendable member which has enough restoring force and rigidity to restore a bent state to an unbent state and is attached to the two housing portions so as to be overlapped with the two housing portions(**see housing portions**

Art Unit: 2617

**in figure 5 and 6 with respect to element 13)**, wherein the bendable member is a thin plate having an arc shape in section view perpendicular to a connecting direction thereof (**e.g., see remarks in response to arguments dated 11/3/08**).

However, Kauhaniemi does not specifically teach wherein the bendable member is a thin plate having an arc shape in section view perpendicular to a direction in which the bendable member bridges the two housing portions while the two housings are in an folded state state and an edge of the bendable member is inclined to a surface of one of the two housing portions while the two housings are in the unfolded state.

In analogous art, Wilson teaches wherein the bendable member is a thin plate having an arc shape in section view perpendicular to a direction in which the bendable member bridges the two housing portions while the two housings are in an folded state (**e.g., see paragraphs 0009, 0024 and figure 3, 4a-4d**) and an edge of the bendable member is inclined to a surface of one of the two housing portions while the two housings are in the unfolded state (**e.g., see response to 6/5/09 arguments**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kauhaniemi to include wherein the bendable member is a thin plate having an arc shape in section view perpendicular to a direction in which the bendable member bridges the two housing portions while the two housings are in an folded state and an edge of the bendable member is inclined to a surface of one of the two housing portions while the two housings are in the unfolded state to increase rigidity as taught by Wilson.

Consider **claim 20**, Kauhaniemi teaches a connecting device comprising: a connecting portion which foldably connects two housing portions (**paragraphs 0043-0044 and figures and**

Art Unit: 2617

**or 14)**, wherein said connecting portion comprises a bendable member, and wherein the bendable member has a curved shape in a sectional view perpendicular to a connecting direction thereof (**e.g., see remarks in response to arguments**); a flexible wiring member which connects the two housing portions such that they can communicate with each other(**paragraphs 0043-0044 and figures and or 14**); and a receiving antenna which is connected to one of the two housing portions (**e.g., inherent with respect to the mobile phone as discussed in paragraph 0014**).

However, Kauhaniemi does not specifically teach wherein the bendable member is a thin plate having an arc shape in section view perpendicular to a direction in which the bendable member bridges the two housing portions while the two housings are in an folded state and an edge of the bendable member is inclined to a surface of one of the two housing portions while the two housings are in the unfolded state.

In analogous art, Wilson teaches wherein the bendable member is a thin plate having an arc shape in section view perpendicular to a direction in which the bendable member bridges the two housing portions while the two housings are in an folded state (**e.g., see paragraphs 0009, 0024 and figure 3, 4a-4d**) and an edge of the bendable member is inclined to a surface of one of the two housing portions while the two housings are in the unfolded state (**e.g., see response to 6/5/09 arguments**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kauhaniemi to include wherein the bendable member is a thin plate having an arc shape in section view perpendicular to a direction in which the bendable member bridges the two housing portions while the two housings are in an folded state and an

Art Unit: 2617

edge of the bendable member is inclined to a surface of one of the two housing portions while the two housings are in the unfolded state to increase rigidity as taught by Wilson.

Consider **claim 25**, Kauhaniemi teaches a folding portable terminal apparatus comprising: an upper housing portion which has a display unit provided therein (**e.g., see figures 5 and 6**); a lower housing portion which has an operating unit provided therein (**e.g., a keypad of a mobile phone figure 5 and 6**); and a connecting portion which foldably connects the upper housing portion and the lower housing portion, wherein the connecting portion includes a plurality of connecting plates each having a curved portion that is curved on an axis parallel to a direction thereof ( **e.g., see 13 of figures 5 and 6 with respect to figures 13 and/or 14 as described in paragraphs 0043 and 0044**).

However, Kauhaniemi does not specifically teach the connecting plate bridges the two housing portions while the two housings are in an folded state and an edge of the bendable member is inclined to a surface of one of the two housing portions while the two housings are in the unfolded state.

In analogous art, Wilson teaches the connecting plate bridges the two housing portions while the two housings are in an folded state (**e.g., see paragraphs 0009, 0024 and figure 3, 4a-4d**) and an edge of the bendable member is inclined to a surface of one of the two housing portions while the two housings are in the unfolded state (**e.g., see response to 6/5/09 arguments**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kauhaniemi to include the connecting plate bridges the two housing portions while the two housings are in an folded state and an edge of the bendable



Art Unit: 2617

member is inclined to a surface of one of the two housing portions while the two housings are in the unfolded state to increase rigidity as taught by Wilson.

Consider **claim 16 and as applied to claim 25**, Kauhaniemi teaches wherein the bendable member is attached to the two housing portions (**e.g., see figure 6**), with a concave portion thereof oriented in a direction where the two housing portions are folded (**e.g., see figure 6**).

However, Kauhaniemi does not specifically teach a longitudinal concave portion thereof oriented in a direction parallel to a direction in which the two housing portions are folded.

In analogous art, Wilson teaches a longitudinal concave portion thereof oriented in a direction parallel to a direction in which the two housing portions are folded (**i.e., the straps 30 are made of metal is generally rectangular in shape and has a central substantially oval embossed or depressed region 33 to provide additional strength and rigidity thereto**)(**e.g., see paragraphs 0024-0025 and respective figures**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kauhaniemi to include a longitudinal concave portion thereof oriented in a direction parallel to a direction in which the two housing portions are folded for the purpose of rigidity and strength as taught by Wilson.

Consider **claim 17 and as applied to claim 15**, Kauhaniemi teaches wherein the bendable member is mounted to the two housing portions (**e.g., see figure 6**), with a concave portion thereof oriented in a direction where the two housing portions are folded(**e.g., see figure 6**).

However, Kauhaniemi does not specifically teach a longitudinal concave portion thereof oriented in a direction parallel to a direction in which the two housing portions are folded.

Art Unit: 2617

In analogous art, Wilson teaches a longitudinal concave portion thereof oriented in a direction parallel to a direction in which the two housing portions are folded (**i.e., the straps 30 are made of metal is generally rectangular in shape and has a central substantially oval embossed or depressed region 33 to provide additional strength and rigidity thereto**)(e.g., see paragraphs 0024-0025 and respective figures).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kauhaniemi to include a longitudinal concave portion thereof oriented in a direction parallel to a direction in which the two housing portions are folded for the purpose of rigidity and strength as taught by Wilson.

Consider **claim 18 and as applied to claim 15**, Kauhaniemi as modified by Wilson teaches wherein the joint members has a folding force generating means for generating folding force to hold the folded state of the housing portions at a substantially central region thereof corresponding to the gap between the two housing portions ( **e.g., see paragraph 0006**).

Consider **claim 21** Kauhaniemi as modified by Wilson teaches two housing portions (**e.g., see figures 5 and 6**); and the connecting device according to claim 14 that foldably connects the two housing portions(**e.g., see figures 5 and 6**).

Consider **claim 22 and as applied to claim 20**, Kauhaniemi as modified by Wilson teaches the claimed invention further comprising; a display unit that is provided in one of the two housing portions (**e.g., the display unit of mobile phone in figures 5 and 6**); and an operating unit that is provided in the other housing portion **e.g., the keypad of mobile phone in figures 5 and 6**), wherein, when the two housing portions are in a folded state, the display unit and the operating unit are arranged opposite to each other (**e.g., see figures 5 and 6**).

Art Unit: 2617

Consider **claim 23 and as applied to claim 20**, Kauhaniemi as modified by Wilson teaches both ends of the bendable member in the longitudinal direction are fixed to leading ends of bosses provided on the two housing portions (e.g., see **figures 1 and 2**), and the leading ends of the bosses have spherical shapes(e.g., see **figures 1 and 2**).

Consider **claim 24 and as applied to claim 20**, Kauhaniemi as modified by Wilson teaches wherein both ends of the bendable member in the longitudinal direction are fixed to leading ends of bosses provided on the two housing portions(e.g., see **figures 1 and 2**), and the leading ends of the bosses each have R portions opposite to each other(e.g., see **figures 1 and 2**).

Consider **claim 26**, Kauhaniemi as modified by Wilson teaches wherein folding portable terminal apparatus according to claim 14, wherein the plurality of connecting plates overlap each other (e.g., see **figures 2 and/ or 13 and 14**).

Consider **claim 27**, Kauhaniemi teaches as modified by Wilson wherein the bendable member extends in a single straight line from one of the two housing portions to the other housing portion (e.g., see **figures 2 and/ or 13 and 14**).

Consider **claim 28**, Kauhaniemi as modified by Wilson teaches wherein the bendable member has substantially gutter shape in a connecting direction thereof( e.g., see **figures 2 and/ or 13 and 14**).

Consider **claims 29-32 and as applied to claims 14-15, 20 and 25**, Kauhaniemi as modified by Wilson teaches wherein the sectional view of a central portion of the bendable member has a linear shape when the two housings are in a folded state(e.g., see **figures 2 and/ or 13 and 14**).

***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES SHEDRICK whose telephone number is (571)272-8621. The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles Shedrick/  
Examiner, Art Unit 2617

/Lester Kincaid/  
Supervisory Patent Examiner, Art Unit 2617